Augmenting Graphene to Superconduct (Room Temperature) with Transverse Flow Direction Rather than Parallel

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Introduction

Graphene has the property of conductor; conducting electricity with great efficiency when the flow direction of electrons is parallel with the 2-D material; but of an insulator when the flow direction is transverse. Understanding why this is the case (as well as why twisted bi-layer graphene has been found to superconduct at temperatures as high as 1K) is the first step toward properly exploiting graphene as a superconductor.

Few breakthroughs with the material have been made since the initial discovery of 1K superconductivity, largely as a result of the assumption that conduction is a prerequisite for superconduction.

Abstract

As has been mentioned in previous publications describing multiple other approaches to room-temperature superconductivity, the spin direction of electrons in the conducting material is crucial for enabling the phenomenon. When electrons in a conductor have magnetic moment and that moment is oriented in the direction of flowing electrons (difficult to avoid,) this magnetism results in the slowing of those electrons (analogous to the difference between ziplining and using monkey bars.) Reducing the temperature of a material to absolute zero negates this magnetism, but this magnetism may also be prevented from interacting with flowing electrons through control of the spin direction of the electrons.

As has already been outlined in previous publications, ensuring that only the "east/west" sides of the electrons in the conductor face toward the flowing electrons is one method of preventing this impediment of flowing electrons.

To understand why graphene (with parallel flow direction) would make a poor superconductor, one needs to understand why it is an efficient conductor.

Each time electrons change direction as they twist through geometrically arrayed carbon atoms, half of the electrons fork left at each carbon atom and half of the electrons fork right. A spin is applied to these flowing electrons and these complementary spin directions constitute a form of two-phase alternating current. This alternation is re-initialized with each fork in the proverbial road, ensuring such a finely calibrated two-phase alternation that the conductive efficiency actually exceeds that of three-phase alternating current in power transmission lines. Although direct current is supplied, the material itself

conveys the electrons through two-phase alternation; an occurrence which has, thus far, been overlooked by the physics community.

This alternation implies that all electron spins of flowing electrons necessarily feature the north and south poles of the electrons spinning in parallel with the material. This tendency would make it extremely difficult for the material to foster superconduction in the parallel direction as the spins of the flowing electrons would profoundly effect the spins of the graphene's electrons.

One must also consider why it is that graphene is an insulator when the flow direction is transverse to the material. There are two reasons for this. One is the large gap between carbon atoms (it would be difficult for electrons to be conducted through this gap as flowing electrons tend to "stick" to wires rather than jumping into a vacuum.) The other reason is that even if an electron tries to flow through the carbon atoms themselves rather than the hexagonal space between them, the fact that the east/west sides of the electrons (neither a magnetic north or south) are consistently facing outward from the two-dimensional sheets, there is nothing onto which the would-be flowing electrons could latch. An electron would need to be able to swing, as a child, from one monkey bar to the next. Electrons do this through the interaction of the north poles of the flowing electrons and the south poles of the conducting material's electrons. If only east/west faces are available, no conduction will occur. At room temperature, therefore, at least in graphene, the very thing that makes conduction possible is what prohibits superconduction.

Working upon this presupposition, if we can coax electrons to jump from a conventional conductor into tunnels composed of stacked hexagonal rings of graphene, these electrons would move effortlessly through that tunnel and emerge on the other side after traversing the material fermionically.

This might be achieved by surrounding tunnels composed of single graphene hexagons stacked until the desired tunnel length is achieved (with perfect alignment being required) with crystalline structures which create Coulomb Force Lines originating from six different directions. These lines would bisect the carbon atoms and would meet at the exact center of the hexagonal graphene rings. This would look a little like an umbrella (as seen from above) when diagrammed.

These force lines would ensure that flowing electrons keep their distance from the "walls" of the tunnel and prevents their magnetic interaction with the walls. These force lines would also serve the dual purpose of performing the aforementioned task of coaxing electrons to jump out of a conventional conducting wire and into the vacuum between the carbon atoms despite the lack of a conductive pathway.

As explained in previous publications, Coulomb Forces can either encourage or discourage electron-electron reflection events within the electron shells of atoms. These reflection events can generate light or can prompt the flow of

electricity. This premise is not currently accepted by the physics community given their present assumption that photons are generated only through either spontaneous or stimulated emission, a process which allegedly involves electrons jumping between energy states. Once it is understood that these emissions are actually the result of electron clusters known as triplets colliding with singlets moving in opposite orbital directions, it becomes fairly self-evident that emission can be influenced expertly through Coulomb Forces.

If a conventional conducting wire (hydrogen nanowires being the only ones sufficiently thin to support transverse insertion into the space between carbon atoms in graphene,) were to be slightly inserted into one of these tunnels, electrons in the inserted portion would begin to jump from the wire into the vacuum of the tunnel. Once this is achieved, room temperature superconduction of this sort may begin, provided that there is a wire slightly inserted on the other side of the tunnel to receive the electrons. In the absence of that wire, no electrons will flow through the superconducting tunnel in accordance with the siphon principle. Flowing current (or water) may be made to follow special paths or to behave in particular ways, but a differential of pressure, elevation or, in this case, electrical charge, must exist between the cathode and the anode in order for current to flow. Importantly, this superconduction behaves more like a series of discharge events than more conventional conduction of current through a wire with each individual electron and each positive terminal on the other side of the tunnel forming their own one-way circuit.

Conclusion

Although there are many possible approaches to bringing about room-temperature superconduction, the fundamental physics which underpin it are the same regardless of the mechanism utilized. This is analogous to the way in which cars, trains, and aircraft all rely upon the generation of thrust despite being otherwise distinct. East-West spin orientations in a superconductive material can be brought about at room temperature through magnetic suspension, through neutrino vacuum generation or, as in this case, through transverse insertion of current through overlapping insulators. All three share in common that East-West electron spins are ensured, thereby precluding magnetic interaction between flowing electrons and the electrons comprising the material.